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34. FIRST RECORD OF THE ALLIGATOR WEED, *ALTERNANTHERA PHILOXEROIDES* (MART.) GRISEB. FROM PUNE, MAHARASHTRA

(With a text-figure)

The genus *Alternanthera* Forsk. is represented in India by five species, namely *A. sessilis*, *A. pungens*, *A. tenella*, *A. paronychioides* and *A. bettzichiana* (Sivarajan and Mathew 1984, Naik and Pokle 1985). These plants are known to attain weed proportions.

One such aquatic emergent weed showing close resemblance to the genus *Alternanthera* was seen growing profusely during October 1992 in the river Mutha, which flows through Pune city. Though two of us had spotted this plant growing in the same river, during 1990, it failed to attract attention of even the angiosperm taxonomists probably because it had not reached weed proportions then. Two earlier reports, one for the river Mutha and its surroundings (Ghate and Vartak 1981) and the other for aquatic angiosperms of entire Maharashtra (Karthikeyan *et al.* 1982) have not mentioned this plant.

This weed was found growing luxuriantly along the slow moving and sewage polluted parts of the river Mutha. The plant attains a length of over two metres. Flowering was observed during April and May. Because no species of *Alternanthera* commonly found in India bears flowers in peduncled heads, there was delay in identification of this plant. Herbarium collections in Botanical Survey of India (BSI), Western Circle, Pune and Agharkar Herbarium of the Maharashtra Association for the Cultivation of Science (AHMA), Pune, were also not helpful because this plant is not in their collections. We even recently mentioned about this unidentified weed at the "National Conference on Recent Advances in Phytotaxonomy" held at Aurangabad, in June 1993.

After a thorough examination of the material at hand and literature survey, we now report this plant to be *Alternanthera philoxeroides* (Mart.) Griseb., popularly known as the alligator weed. Our identification is based on the description and key

given by Maheshwari (1964), Bennet (1979) and Sivarajan and Mathew (1984).

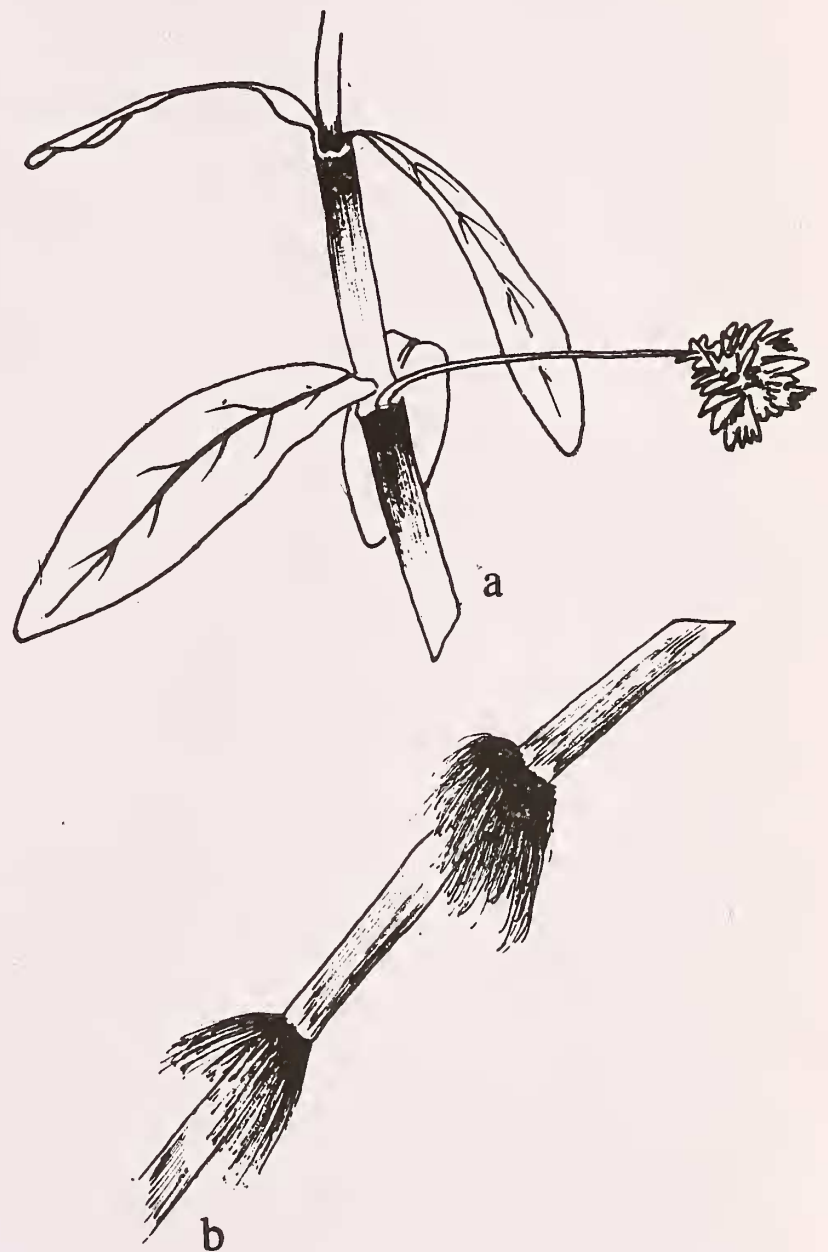


Fig. 1. *Alternanthera philoxeroides* (Mart.) Griseb.
a. Showing the stem and peduncled flower;
b. Showing rooting at lower nodes.

Singh and Singh (1985) stated that in Manipur the plant is locally known as 'komprek' and that all

parts of the plant except roots are eaten, raw or cooked. They are sold in bundles in markets from May to July in Manipur. In West Bengal it is locally known as 'jal-sanchi' (Jain 1991). As reported in 'The Wealth of India', the plant has high iron content and can be used as a salad. Methane can also be produced from anaerobic fermentation of the plant. The plant can be used as a tertiary filter for domestic sewage as it reduces the suspended solids, total Kjeldahl nitrogen, total phosphorus, B.O.D. and total organic carbon levels in domestic sewage. The plants grown in domestic sewage are reported to be free from toxic levels of trace heavy metals (Anon. 1985). Its use as a vegetable is well known in tribal areas of Assam, Sikkim and Bihar (see Jain 1991). Raju (1986) has reported that it is locally used by some as a green vegetable and by most others as fodder for their cattle and pet rabbits. In one instance, as reported by him, the plant was cultivated in Hanamkonda, Andhra Pradesh, as a forage crop. Madhusoodanan and Ajit Kumar (1993) have reported that the plant is sold in Ernakulam, Kerala, as a delicious leafy vegetable and is locally called as 'Kozhuppa'.

From our observations it is quite apparent that this is a fast growing problematic plant. We therefore agree with Sankaran and Narayanan (1971) and Naithani and Raizada (1976), who warn about the aggressive qualities of this plant. We feel that this may become yet another nuisance weed like water hyacinth.

Raju (1986) mentions that the insect species *Agasicles hygrophila* Selman and Bogt (Flea beetle), *Amynothrips andersoni* O'Neill (Thrips) and *Vogtia malloi* Pastrana (Stem borer) were introduced into USA from Argentina for biological control of the alligator weed.

Some salient features of this plant are: decumbent hollow stem rooting at lower nodes; leaves opposite, fleshy, oblong lanceolate and narrowed at base; flowers shining silvery white, in long peduncled heads, borne in only one axil of a node; tepals white, apex subacute; stamens five, united below; staminodes equal to the height of the stamens, broader than the filaments, tips divided into 2-4 narrow teeth; ovary

rounded at the apex; style short; stigma globose (Fig. 1).

The weed is believed to be originally from Brazil, South America. As far as the distribution of this weed in India is concerned, there are reports from West Bengal and Bihar (Maheshwari 1964), Karnataka (Sankaran and Narayanan 1971), Assam (Baruah and Choudhury 1974), Madhya Pradesh (Naithani and Raizada 1976), Tripura (Deb 1981), Manipur (Singh and Singh 1985), Andhra Pradesh (Raju 1986), Uttar Pradesh (Pangtey and Samant 1989), Delhi (Lal and Shah 1990), Punjab (Bir, Sharma and Singh 1992), Kerala (Madhusoodanan and Ajit Kumar 1993). This report therefore forms the first record of the alligator weed from Pune, Maharashtra.

It is interesting, however, to note that although this species was identified by Maheshwari in 1964, apparently it was collected as early as 1940 by Floyd from West Bengal and Bihar (Baruah and Chowdhury 1974).

The specimens are now kept in the AHMA at Agharkar Research Institute, Pune (Voucher Specimens AHMA 17890 to 17892). One specimen will be donated to BSI, Pune.

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35. A REPORT ON THE OCCURRENCE OF *ANTIDESMA THWAITESIANUM* MUELL. - ARG. (EUPHORBIACEAE) FROM SOUTH ANDAMANS

INTRODUCTION

During botanical exploration of Mt. Harriet Hills (South Andamans) we came across some interesting specimens of *Antidesma* species. The specimens were critically studied at CAL and identified as *Antidesma thwaitesianum* Muell.-Arg. Airy Shaw (1972a, 1972b, 1981) reported the occurrence of this species from Andaman Islands on the basis of an old collection by Parkinson deposited at Kew (K.). This species has never been reported again from Andaman Island after Parkinson's collection (Parkinson, 575, without specific locality 15-5-1915). Chakrabarty & Balakrishnan (1992) in their revisionary work, reported that no specimen of this species from

Andaman Islands is traceable in Indian herbaria. The recent exploration of the slopes of Mt. Harriet ranges revealed small populations of this species growing at Wrightnyo and Kalatang forests of the Harriet ranges. Though *Antidesma thwaitesianum* Muell.-Arg. has a wide phytogeographical distribution from Sri Lanka to South-East Asia, in the Indian flora, it is confined to the Andaman Islands. Being a very rare and interesting species, an illustrated account is given below to facilitate its identification.

Antidesma thwaitesianum Muell.-Arg. in DC., Prodr. 15(2): 263. 1866; Airy Shaw in Kew Bull. 26: 360, 462. 1972 & in Kew Bull. Ad. ser. IV. 217. 1975 & in Kew Bull. 36: 364. 1981; Mandal & Penigr. in J. Eco. Tax. Bot. 4: 255. 1983; T. Shakrab.